

**MEKELLE UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF MANAGEMENT**  
**POSTGRADUATE PROGRAM(DVS)**



**THE ROLE OF NON-FARM ACTIVITIES IN SUSTAINING RURAL LIVELIHOOD,  
(IN THE CASE OF ENDERTA WOREDA,TIGRAY REGIONAL STATE)**

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**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR  
THE AWARD OF MASTER OF ARTS DEGREE IN DEVELOPMENT STUDIES  
(REGIONAL AND LOCAL DEVELOPMENT)**

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**MEKELLE, ETHIOPIA**

## DECLARATION

I, **Meaza Tadesse**, have been a student of Master of Development Studies (MA) in the Department of Management, College of Business and Economics (CBE), Mekelle University (MU), Mekelle since July, 2010.

I do hereby declare that the thesis entitled, “**The role of non-farm activities in sustaining rural livelihood: Enderta wereda**” for the Master’s Degree of this University, is my own piece of original research work.

This thesis is submitted for the Master of Arts (MA.) in Local and Regional Development in the Department of Management, CBE, under the direct supervision and guidance of principal advisors **Bihon Kassa(Assistant Professor)** and co-adviser **Tigist Tesfay(Mpp)**, CBE, MU, Mekelle. The manuscript of this thesis has been thoroughly scrutinized by them. I also assert that this thesis has not been submitted earlier for the award of any other degree or diploma anywhere else.

With high regards,

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# CERTIFICATION

This is to certify that **Meaza Tadesse** has been a bona fide student of Master of Development Studies in the Department of Management, College of Business and Economics (CBE), Mekelle University (MU), Mekelle since September, 2010.

With regard to the thesis entitled on “**The role of non-farm activities in sustaining rural livelihood: Enderta wereda**” for Masters of Arts (MA.) Degree in Local and Regional Development in the Department of Management, CBE, We certify that she has carried out the research work under our direct supervision and guidance. The manuscript of the thesis has been thoroughly scrutinized by us in view of the requirements of the regulations of the University.

This thesis does not contain any conjoint research work with us or with anyone else. The final copy of the thesis which is being submitted to the university office has been carefully read for its material and language and she has completed her research work to our entire satisfaction.

To the best of our knowledge, the entire thesis comprises the candidate’s own piece of original research work. Thus, the thesis is worthy of consideration for the award of MA. Degree in Development Studies in specialization of Local and Regional Development.

With high regards,

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## ABSTRACT

*The research was conducted with the objective of examining and studying the role of non-farm activities in sustaining the livelihood of respondents in Enderta Woreda .In order to achieve this objective a primary data was collected from 190(one hundred ninety) systematically selected households using structured and unstructured questionnaires. Moreover; key informants and focus group discussion had been also used to obtain detailed information .For the data analysis purpose; descriptive statistics including mean, frequency and percentages were used to describe the livelihood resources/assets of Enderta woreda, non-farm rural diversification. It was identified and analyzed the key constraints and opportunities as well as the contribution of nonfarm activities existing in the study area. Generally, the study showed that rural households in the study Tabias have diversified incomes engaged in diversified activities importantly nonfarm livelihood diversification's a result the livelihood of the rural household have been changed. They have also Lack of access to sufficient fixed and working capital which is a major constraint to undertake high-return non-farm activities. Here, the skill and knowledge are the key inhibitors of diversification, infrastructure and market imperfection due to brokers that are found to constrain diversification. Finally, farm households should be aware to nonfarm diversification; further more efforts should be made to improve skill and knowledge of farmers through provision of training. Furthermore, it should be work intensely in access to credit service and increase the amount of money saved.*

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**Key words:** *Sustainable rural livelihoods, livelihood asset, livelihood strategy, nonfarm livelihood diversification*

## ACRONYM'S

ADLI	Agricultural Development-led Strategy
CSA	Central Statistics Agency
DFID	Department for International Development
LA	Livelihood Approaches
MFI	Micro Finance Institution
MoFED	Ministry of Finance and Economic Development
MSE	Micro and Small Enterprise
PASDEP	Plan for Accelerated and Sustainable Development to End Poverty
RNFE	Rural Non –Farm Economy
RUL	Rural Urban linkage
SL	Sustainable Livelihood
SLA	Sustainable Livelihood Approaches
SPSS	Statistical Package for Social Science
UNDP	United Nations Development Program

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## CHAPTER ONE: INTRODUCTION

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*This chapter deals with introduction part of the thesis that involves background of the study, statement of the problem, research question, objectives of the study (general and specific objectives), significance of the study, scope and clear delineation of the paper and its organization.*

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### **1.1. Background of the Study**

The concept “nonfarm activities” is defined in many ways by different authors. Kaija (2007) defined it as; the non-farm sector refers to all other activities outside the farm sector and agricultural wage employment. Non-farm activities are important to the livelihoods of rural households and should occupy a central position in policies addressing the development problems in Africa (Anriquez, G and Daidone, S., 2009). The rural non-farm sector not only contributes directly to rural households’ income that creates employment opportunities, but also it provides avenues for input supplies to the farming sector and value-adding opportunities for the farm production. A well-off non-farm sector should be able to provide employment to marginal farmers who leave agriculture because they could no longer survive in farming. A growing interest in the rural non-farm sector reflects the increasing realization that rural peoples’ livelihoods are derived from diverse sources and are not as overwhelmingly dependent on agriculture as previously assumed. Moreover, policy makers are looking at the wider rural economy to reduce persistent rural poverty and rural-to-urban migration (Davis, J. R. and Bezemer, D., 2004).

Past studies as per (Awoyemi, 2004; Jonasson, 2005; Benjamin and Kimhi, 2006; Kaija, 2007) cited at Adewunmi, et al. (2011), reported that the contribution of non-farm income sources to the rural economy cannot be neglected because it has grown substantially during the last two decades and its share to total household income ranges between 30% and 50% in some developing countries. In this respect, the behavior of rural households in diversifying their sources of income and employment from solely agriculture to non-agricultural activities could be considered to be important as part of sustaining livelihood in Ethiopia.

Even though agriculture is the main source of livelihood in rural Ethiopia, farmers are engaged in a range of non-farm activities to diversify their income and enable them survive with the risk of crop failures. However, there is a wide difference between literatures regarding the share of non-farm income in total household income in Ethiopia. Barrett and Reardon (2000) reported that the share of non/off-farm income in rural Ethiopia averaged about 36% in 1989/90, on the other hand, Reardon et al. (2006) found that non-farm share of total income in rural Ethiopia was about 20% in 1999 fiscal year (Demisse,A and Legesse,B.(2013). Despite, the differences in the percentage of income share derived from non-farm employment, the role of non-farm income in total household income is significant.

Several studies conclude that involvement in supplementary activities is positively related to farm productivity and contributes to poverty alleviation. Farm households, as their income grows, increase their expenditure share on non-food items, thereby accelerating demand for non-farm goods and services such as housing, clothing, schooling, health, etc. To meet this growing demand, rural households increasingly have to diversify into rural non-farm goods and services. Increasingly, productive modern agriculture also requires inputs and services, such as seeds, fertilizer, credit, pumps, processing facilities, which in turn create a growing demand for non-farm firms that can provide these services. The case is true even in our region .The growing agricultural economy pushes the rural people to assimilate in varies non-agricultural activities.

The farm households in the study area is engaged in different non-farm activities such as, cable Stone, Sand quarrying, Stone quarrying, Wood work, Metal work, Weaving machine, Baltna, Pottery, Swing machine, petty trade and Food preparation. The study area is the potential area for coble stone in Tigray region. Cobble stone production is nowadays believed to be a means to initiate non-farm agricultural activities in the rural area. The cobble stone project is planned and backed by the government to enable the rural youth to engage themselves in non-farm activities it is believed that the rural youth can accumulate initial capital through the cobble stone engagement and thereby proceed to establish petty non-farm occupation .On the basis of this principle ,many rural youth, especially those who are landless, unemployed or currently not attending school ,were made to be organized in “developmental groups”(are farm households or youths form a group at a number of 25-30 to participate on developmental activities like cobble stone production, stone quarrying and the like. Therefore, this paper will focus on contribution of

non-farm activities for sustainable rural livelihood considering the respondents in Enderta Woreda.

## **1.2. Statement of the Problem**

Traditional agriculture has been supposed as the only engine to rural growth. The recent literature on rural development has revealed an alternative view in which agriculture performs a more synergetic function, in combination with other sources of employment. As a result, the livelihoods of rural households are more often characterized by complex strategies that involve multiple income-generating activities by one or more household members, as nonfarm income sources assume an increasingly important role over time (Talip,et al. ,2008).

According to, Haggblade et al., (2007), the empirical evidence for a number of developing countries indicates that, rural non-farm income accounts for 35% and 50% of total income in Africa, and Latin America and Caribbean, respectively (Haggblade et al., 2007). The levels of participation by rural households in nonfarm activities are even higher, with the vast majority of rural households in many developing countries involved in some form of non-farm income-generating activity. However, while income diversification at the household and local level is the norm, agriculture is still a crucial sector of employment in those rural economies for which evidence is available (Davis et al., 2007). Even in rural households in Sub-Saharan Africa (SSA) one of the mechanisms used by rural households to smooth income variability is to diversify their activities by starting non-farm activities.

In Ethiopia the percentage of rural households' participation in non-farm activities have been close to 25 % ( Merima & Jack, 2012). The policy focus is increasing agricultural productivity so as to attain food self- sufficiency at a national, regional and household level. According to the 2007 population census 83.8% of the population of the country derives its livelihood from agriculture, which is entirely dependent on rain fed agriculture. Besides; farmers are engaged in a variety of non-farm activities to diversify their income with a view to feed and sustain themselves during crop failures. Hence, looking into the link between farm and non-farm activities and their determinants is necessary before policy measures are taken to promote non-farm activities (Tassew, 2000). In view of these astonishing issues, various empirical studies

have identified the socio-economic foundation of rural livelihoods for pursuing livelihood strategies.

Ellis (2004) argues that “Ethiopia follows policies that trap people in Agriculture”. Inquiring of the Agricultural Development-led Strategy (ADLI) of the Ethiopian government, however, reveals that Ethiopian policy makers do in fact recognize the reciprocal linkages between agriculture and other sectors. Although small-holder agriculture is at the centre of ADLI, the growth strategy pursued under Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) is proposed to be driven by agricultural diversification and commercialization with a strong export focus. The Rural Development Policy and Strategy Paper of the Ethiopian Government (2001) also explicitly recognize the importance of non-agricultural income diversification in rural areas and have devoted considerable space to elaborating the link between the farm and non-farm sectors. The document in fact states that “we can consider our rural development activities that have achieved their goal only when agriculture ceases to be the Main source of the Ethiopian economy”.

Fikru,T(2008), criticizes Ellis as, in light of the above, although there are legitimate grounds for doubting their impact to date, and the seriousness with which they are pursued, it would not be a fair criticism to claim that “Ethiopia follows a rural development policy that traps people in agriculture”.

Tassew (2002), his study focuses on Tigray particularly on Enderta and Adigudom Woreda, showing that off-farm income can be complementary to farm income if farm households are constrained in their borrowing. It also shows that farm households with more diversified sources of income have a higher agricultural productivity. And also he noted that expenditure on farm input is dependent not only on agricultural production, but also on off-farm income because of capital market imperfections (borrowing constraints). But he didn't show many farm households in the study area also pooled by opportunities for change in to attractive non-farm activities in the study area

Agriculture is the main economic base of Tigray region. About 80.5 % of the population receives their livelihood from agriculture (CSA, 2007). Even though the sector remains the main source of livelihood in the region, production is not adequate to sustain the livelihood. Enderta Woreda is among Woredas of Tigray Region in which agricultural production in the area is highly

constrained by factors such as degraded environmental condition, inadequate rainfall, lack of technology, capital as well as credit (Tagel, 2008) .Besides, population pressure and shortage of farmland; and lack of productive assets are the factors contributing to the problem (ibid). Most research papers carried out in the area, argue that rural non-farm activity is as being only distress-push for the rural poor .No published study haven't observed that many farm households in the study area also pooled by opportunities for change in to attractive non-farm activities in the study area .

Hence, the aim of this paper is to fill the gap, and thus to assess the nonfarm livelihood diversification option by taking each livelihood resources/assets and identifying the contribution of nonfarm activity for sustainable livelihood of the rural households of the study area. The researcher strives to assess the opportunities and constraints of nonfarm diversification in the study area and thereby deliver possible solutions.

### **1.3. Research Questions**

1. What are the non-farm livelihood resources/assets of the study area?
2. What does the dominant non-farm diversification sources of the livelihood strategies constitute?
3. To what extent does the non-farm livelihood diversification option has a function in sustaining the livelihood of the study area?
4. What constraints are there those tackle non-farm diversifications in the study area?

### **1.4. Objective of the Study**

#### **1.4.1. General Objective of the Study**

The general objective of the study is to examine and study the role of non-farm activities in sustaining the livelihood of Enderta Woreda

#### **1.4.2. Specific Objectives of the Study**

The specific objectives are:

1. To examine the non-farm livelihood resources/assets of the study area
2. To assess the non-farm livelihood diversification strategy option of the study area

3. To examine the contribution of non-farm activities existing in the study area
4. To identify and analyze the key constraints and opportunities for non-farm rural diversification in the study Woreda.

## **1.5. Significance of the Study**

The study focused on the role of non-farm activities in sustaining rural livelihood. The rural non-farm sector in Ethiopia is not an adequately researched component of the rural economy, and knowledge about its role in the broader development process is relatively little. Only few researches have been dealt with rural non-farm diversification activities in sustaining rural livelihood.

The study contributes to the understanding of the role of non-farm activities and the dynamics of rural non-farm economy in providing employment and income diversification opportunities. Results of this study will be important in providing information for governmental and non-governmental bodies who are working on non-farm activities for sustainable rural non-farm livelihood diversification. Moreover, it hopes to contribute to understand better the forces that drive change in rural non-farm economy, opportunities and constraints.

Better understanding of the above will in turn be expected to contribute to the design and implementation of policies and instruments for the development of rural non-farm livelihoods of the rural poor.

## **1.6. Scope and Limitations of the Study**

### **1.6.1. Scope of the study**

The concept “non-farm activities” is defined in many ways by different authors. According to Kaija (2007), the non-farm sector refers to all other activities outside the farm sector and agricultural wage employment. The study comprises the livelihood resources/assets including human, natural, social, financial, and physical capital, the livelihood diversification strategy option, the contribution of non-farm activities existing in the study area, the key constraints and opportunities for non-farm rural diversification in sustaining the livelihood of the rural areas of Enderta Woreda.



Using appropriate sampling technique five Tabias were taken purposively among 17 Tabias of Enderta Wereda; namely Mesebo, Arato, Mahbere genet, Didba and Chelekot. The first reason for selecting these Tabias could be due to better flow of capital and goods (especially potential areas for cobble stone and other non-farm activities) compared to other Tabias. The second reason is their convenience for the researcher in reaching the Tabias's and their closeness to the Regional capital city (i.e. Mekelle).

### **1.6.2. Limitation of the study**

The study focuses on the role of non-farm activities in sustaining rural livelihood that covers only 5 of the 17 Tabias which is purposely selected and limited, i.e. Namely, Mesebo, Arato, Mahberegenet, Didba and Chelekot. Therefore, the findings from the assessment are limited to the study area and the conclusions delineated may not be possibly represented as whole. So, future researchers may include other Tabia's to generalize the findings and also to compare the results across the woreda when it is practical. The study does not include agricultural wage employment as one of off-farm activities. So, to generalize on findings, future searcher may include this in line with the others when it is practical.

## **1.7. Organization of the Paper**

The paper is organized into five chapters. Chapter one have described the back ground of the study, statement of the problem, objective of the study, research question, significance of the study and scope & limitation of the study. After introducing in chapter one; chapter two reviews literature review with regard to the case study. The third chapter presents the methodology used. Furthermore, chapter four discusses data presentation and analysis. Finally, the last chapter of the paper concludes the study and incorporates recommendations.

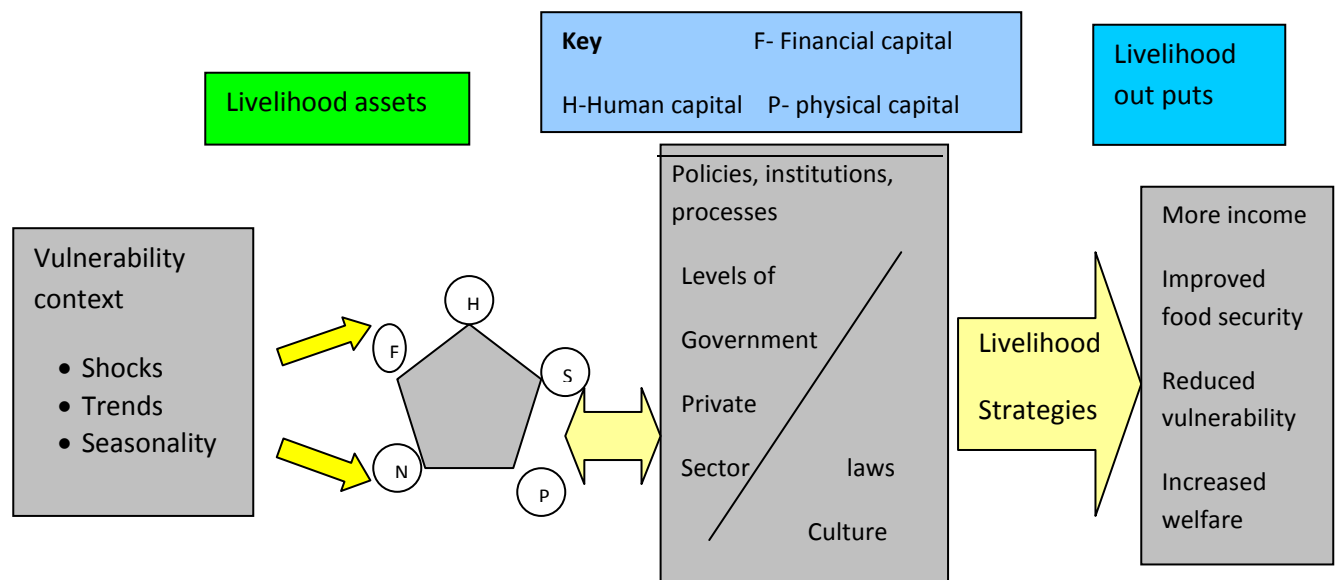
## CHAPTER TWO: LITERATURE REVIEW

*This chapter reviews literatures about the conceptual framework, rural non-farm activities as well as diversification*

### 2.1. The Conceptual Framework

The conceptual framework for this study is apprehensive from the sustainable livelihood framework (SLF) and Livelihood Approaches (LA) that emphasizes understanding of the context within which people live, the assets available for them, livelihood strategies they follow in the face of existing policies and institutions as well as livelihood outcomes they intend to achieve (DFID, 2000).

**Figure 1 Sustainable livelihoods framework**



Source: Adapted from DFID, 2000.

The framework displays how in different backgrounds, sustainable livelihoods are attained through access to a range of livelihood assets which are shared in the pursuit of different livelihood strategies to achieve certain livelihood outcomes such as increased incomes. Households can access a range of assets or resources (physical, natural, economic, human and social capital) in which they can use to engage in farm or non-farm activities or both (Scoones, 1998). Conferring to Ellis (2000), the framework defines the context within which rural non-farm livelihood actions are started in such a way that, different livelihood activities of rural

households are allowed by accessing assets, in the setting of institutions and social relations, modified by tendencies and shocks, with effects on livelihood safety and environmental sustainability.

### **2.1.1. Vulnerability Context**

Vulnerability context refers to seasonality, trends, and shocks that affect peoples' livelihood. The key attribute of these factors is that they are not susceptible to control by local people themselves, at least in the short and medium term (DFID, 2000).

### **2.1.2. Livelihood Resources (Assets)**

Livelihood assets are the resources on which people draw in order to carry out their livelihood strategies (Farrington *et al.*, 2002). The members of a household combine their capabilities, skills and knowledge with the different resources at their disposal to create activities that will enable them to achieve the best possible livelihood for themselves. Everything that goes towards creating that livelihood can be thought of as a livelihood asset (Messer and Townsley, 2003). The livelihood approach respects the asset status of households as important to understanding the choices open to them, containing diversification into non-farm activities. The asset location of a household has a significant effect on household participation in non-farm activities. The major livelihood assets are;

**Human capital:** like age, education, gender, health status, household size, dependency ratio and leadership potential, etc. (Bezemer and Lerman, 2003; Farrington *et al.*, 2002; Kollmair and Gamper, 2002);

**Physical capital:** comprises the basic infrastructure and producer goods needed to support livelihoods, such as reasonable transport, sheltered and housings, sufficient water supply and sanitation, reasonably priced energy and access to information (DFID, 1999);

**Social capital:** which refers to networks and connectedness, Kollmair and Gamper ,(2002) asserts that in the context of the SLA it is the social resources up on which people draw in search of their livelihood outcome such as net works that add to peoples trust and ability to cooperate or participate in a membership of more formalized groups and their arrangements of rules, norms and sanctions.

**Financial capital:** like savings, credit, and remittances from family members working outside the home (CARE, 2001; Bezemer and Lerman, 2003); and

**Natural capital:** which is the natural resource stock from which resource and service flow, for instance, good air and water quality and foundation for good health and other features of a livelihood (Kollmair & Gamper, 2002).

### **2.1.3. Policies and institutions**

Policies and institutions which influence rural household's access to livelihood assets are also important aspects of livelihood framework (DFID, 2000). Institutions are the social cement which link stakeholders to access to capital of different kinds to the means of exercising power and so define the gateways through which they pass on the route to positive or negative [livelihood] adaptation (Scoones, 1998).

### **2.1.4. Livelihood strategies**

According to DFID (1999) the term livelihood strategies are defined *as* the range and combination of activities and choices that people make in order to achieve their livelihood goals, including productive activities, investment strategies, reproductive choices, etc. Livelihood strategies are composed of activities that generate the means of household survival and are the planned activities that men and women undertake to build their livelihoods (Ellis, 2000).

### **2.1.5. Livelihood outcomes**

Livelihood outcomes are the achievements of livelihood strategies, such as more income (e.g. cash), increased well-being (e.g. non material goods, like self-esteem, health status, access to services, sense of inclusion), and reduced vulnerability (e.g. better resilience through increase in asset status), improved food security (e.g. increase in financial capital in order to buy food) and a more sustainable use of natural resources (e.g. appropriate property rights) (Scoones, 1998)

In the circumstance of this study, activities are taken by the household to produce income, such as engagements in non-farm, waged-employment, self-employment and a mix of farm and non-farm engagements. The decision on the set of activities a household will involve itself in, and the strength of those activities, is trained by the arbitrating processes and the context in which the

household operates. Social relations, institutions, and organizations are critical mediating factors for livelihoods. Movements and shocks constitute the context influencing household decisions through natural and non-natural forces (draught, floods, population growth macro-policy, technological changes, etc.). The asset location of household is facilitated by social relations, institutions and organizations result in the acceptance of livelihood strategies, which are collected of activities that produce the means of household survival. Livelihood results are the achievements or outputs on livelihood policies. For the purpose of this study they are what the study is seeking to achieve is through diversification into non-farm activities. An attempt is made to build this study around the above ideas of livelihood and diversity. In the same vein, Ellis (2000) has defined livelihood and diversification as indicated in the following quotation.

*A livelihood comprises the assets (natural, physical, human, financial and social capital), the activities and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household. Diversity refers to the existence, at a point in time, of many different income sources, thus also typically requiring diverse social relations to underpin them. Diversification, on the other hand, interprets the creation of diversity as an ongoing social and economic process, reflecting factors of both pressure and opportunity that cause families to adopt increasingly intricate and diverse livelihood strategies (Ellis 2000:14)*

## **2.2. Definitions of Rural Non-Farm Activities and Diversification**

Before embarking on a study of non-farm rural activities, it is also necessary to identify what is meant by both ‘rural’ and “non-farm”. Gordon and Craig (2001:4) observe that:

*The term ‘rural’ is subject to a large amount of debate, hanging on three particular aspects: whether rural towns are rural or urban, at what size does rural settlement become urban, and the treatment of migration and commuting between rural areas and towns. There is no firm rule that resolves these issues, and the only practical solution is for the researchers to make sure what they have adopted is clearly stated.*

With regard to what establishes ‘non-farm’ too, various researchers and investigators follow different conventions. Bryceson(1999), for instance, observes that non-farm activity is a term

that many associate with non-agricultural activities (e.g. Ellis, 1997); but in the Deagrarianization and rural employment (DARE) survey it includes agricultural paid labor on farms not fitting to the separate producer or his/ her household, in other words, off-farm work Haggblade, et al, (2007) observe that the rural non-farm economy comprises all rural activity outside agriculture. Sectoral projects depend only on the nature of the product and the types of factors used in the production process. Neither place away from home nor employment self-employed or hired for salary or wage matter (Barrett et al, 2000). In this study, however, we follow concept “nonfarm activities” is defined by, Kaija (2007) defined it as; the non-farm sector refers to all other activities outside the farm sector and agricultural wage employment. Activities of the non-farm economy are usually classified into three major sectors i.e., trade, manufacturing and service. A supplementary category is formal employment in the public service (health workers, development agents, teachers etc.)

Typical non-farm activities include:

- ✓ Quarrying and production of building materials
- ✓ Furniture making, carpentry, painting
- ✓ Pottery, mats, baskets
- ✓ Repair of shoes, vehicles, tools
- ✓ Leather work, textiles and clothing
- ✓ Transport
- ✓ Wholesale and retail trading
- ✓ Barbering, photography
- ✓ Cooked food sale, coffee and tea shops, bars
- ✓ Grain milling, dairy processing, slaughtering and butchery
- ✓ Formal employment: teachers, health workers etc.

The literature also points two critically important features of the rural non-farm economy which is its heterogeneity and measurement difficulty. The rural non-farm economy contains a highly heterogeneous collection of trading, agro-processing manufacturing, commercial, and service activities

*The arrangement of non-farm activity differs considerably as a function of widely variable natural resources, labour supply, location, history and institutional factors. Measurement difficulty arises mainly from seasonal, part-time, and small-scale nature of production and the fact that producers do not normally keep written records. Many surveys thus use employment as a proxy for non-farm activity levels (Haggblade et al, 2007:13).*

Numerous definitions of diversification are presented in the literature. Diversification can either refer to an increasing variety of activities regardless of the sector, or it can refer to a shift away from traditional rural sectors such as agriculture to non-traditional actions in either rural or urban space, i.e. sectoral change (Start and Jonson,2004). Alternative definition refers to expansion in the importance of non-crop or non-farm income and increase in the number of sources of income (Minot et al,2006). As Crole- Rees (2002) defines diversification as the share of non-crop income in total income.

### **2.3. Determinants and Motives of Diversification**

The literature offers diverse diversification typologies: distress ‘pushes’ versus demand ‘pull’, income-driven versus activity-driven, occasional versus strategic diversification, to mention a few. Livelihood variation is pursued for a combination of motivations and these vary conferring to context from a need to accumulate in order to invest, to a need to spread risk or maintain incomes, to a requirement to adjust to survive in eroding positions, or some mixture of these (Hussein and Nelson,1999). Two fundamental causes of diversification are also often stated in the literature (Ellis, 1998, 2000); namely seasonality and risk. Diversification is thus expected to play a role in overwhelming the consumption smoothing problem created by the seasonality of agricultural output designs. For rural households, risks are mainly related to natural shocks (drought,floods etc.).

All households, whether rural or urban, are disposed to the personal shocks of chronic illness, coincidences and death. Risks are thus reduced by diversifying livelihoods. Livelihood diversification determinants of fall into two broad categories which are: “push” versus “pull” factors. The coping literature inspects how farmers in low-potential and risky environments- those subject to drought, flooding, or environmental deprivation often adapt by organizing

household capitals to a range of farm and non-farm doings a growing landlessness also pushes households into non-farm activity by default. Many farm households in average to high-potential environments are also pooled by opportunities for change into attractive non-farm activities. Roads, telecommunications, credit and electricity all give to increased non-farm activity. Renkow in Haggblade, et al, (2007:197), observes:

*In the specific case of the rural non-farm economy, infrastructure is a double-edged sword. On the one hand, adequate roads, communication facilities, and other public goods are necessary fixed inputs into production; and, hence, would be expected to facilitate the development and expansion of rural industries. On the other hand, connecting rural places to urban places, via infrastructure expansion and improvement, may well lead to inadvertent “crowding out” of more remote rural firms and industries by virtue of lowering the cost of distance and their competitiveness with urban firms.*

Similar to infrastructure, new technology is also perceived as a two-edged sword though it drives change in the rural non-farm economy. (IBID, 2007) observe that new technology has inspired rapid change in rural non-farm activity through a broad range of developing country settings. In some circumstances, it opens vast new vistas and powers rapid rural nonfarm growth. In other instances, the new technology and excellence standards brandished by expansionist large enterprises may enable them to out compute scrods of smaller, outmoded rural non-farm firms.

## **2.4. Non-Farm Diversification and Poverty Reduction**

The income-diversification literature converges on an estimate of roughly 40 % of African rural household income on average being resulting from non-farm sources (Bryceson, 1999). Because non-farm earnings constitute an even larger portion of cash income (Haggblade,et al.,1988). Even if the influence of non-farm pays on relative income equality is unclear or negative, access to non-farm earnings however improves the absolute income levels of the poor. The non-farm subdivision offers potential to absorb a rising rural labor force, slow rural - urban migration, contribute to national income growth, and promote a more equitable distribution of income (Lanjouw and Lanjouw, 1997).



Given low capital supplies and the small scale nature of numerous rural non-farm enterprises, poor households control many of them. For these details, policy makers are progressively forced to view the rural non-farm economy as a potentially important donor to foster local economic growth and improve the rural-urban income gap and rural poverty (Davis and Bezemer, 2004). There is thus a developing consensus that poverty declines as the share of income from non-agricultural bases rises. The harms of agriculture and large scale activities in African countries reinforce this view.

Four welfare important roles of the rural non-farm sector are usually highlighted in the literature:

- The non-farm sector increases the incomes of marginal producers, and by this decreases inequality and poverty,
- During the loose season, farm households find a second employment and income source,
- Many farm households have a hard time even achieving the subsistence level by means of agriculture for rural setting then, non-farm activities serve also the purpose of generating cash income,
- Various linkages between the non-farm sector and the agricultural sector are being generated that might enhance also agricultural production and / or productivity and hence rural development (Tegegne, 2000).

The poor normally remain limited to the low-return section of the rural economy. Policy creators are thus instructed not to believe that an expanding rural non-farm economy will inescapably translate into declining poverty. However, while these deeds do not lift the poor outside poverty, they have great role in protecting the poor from further declines in income.

## **2.5. Research on Rural Livelihood Diversification in Ethiopia**

Rural structural transformation relating diversification out of agriculture is also increasingly becoming both policy and research issue in Ethiopia. As explained by PASDEP, the rural development strategy of the country will be widened beyond the initial focus on agricultural intensification, with acknowledgement of the need to stimulate income diversification and rural-urban linkages. Overall, the PASDEP stays to advocate ADLI strategy, but adopts a more stable

approach. This is done by highlighting the importance of private advantage of rural households, income commercialization and diversification of agriculture.

There is a growing works relating with rural non-farm livelihood diversification in Ethiopia. Some of these are regional (Demissie and Workineh 2004) cited at Fikru (2008). Others focus on drought periods (Webb 2001, and Fredu et al 2006) cited at Fikru (2008). The one by Adugna (2006), though, covers different regions and cropping systems of the country except pastoralist areas. The authors agree that the performance of the agricultural sector in Ethiopia is weak and that preventive policies, drought, population pressure and environmental degradation are among the major bottlenecks in the development of agriculture.

On the basis of a study conducted out in three sites in southern Ethiopia, Carswell (2002) generalizes that lack of credit and lack of labor are the two key obstacles to entry for diversification activities. The key policy task identified in the study is how to find effective ways of articulating formal credit delivery and informal systems. Other key institutions identified include institutions markets around labor and natural resource tenures. The institution of caste, the traditional authority which it implies, kinship and social network are also deemed to have a serious role in living strategies of people in the study area.

Tegegne in (2000) study was carried out in KachaBira and Damot Gale Woredas of southern Ethiopia, in an attempt to examine the effect of non-farm activity on the production decision of farmers, and to classify the factors influencing non-farm activity. The study found that in the study sites the farm sector is described by shortage of land, low yield of crops shortage of draught animals and lack of grazing land. The implication made is that the farm sector is not enough to support the high density of population in the study sites. Farmers in the study sites, therefore, have exposed higher involvement in non-farm activities and income from non-farm bases play a major role in their livelihood. The main non-farm activities are trade and skill. Those contributing in non-farm activities are found to be relatively younger and more educated. Family size was not found to be an important variable, while villages near urban centers tend to have more number of households making non-farm income and engaging in trade activities.

Fredu et al (2006), using data from 385 rural households in Northern Ethiopia, found out that diversification strengthens income inequality. A rise in income from non-farm income and

livestock, according to their study increases income inequality. They also originate that social capital is a significant factor determining non-farm income but not so for crop income. One can give conclusion from the above works on Ethiopia that diversification decision is driven by various factors and variables and its effects also vary.

According to Beyene (2008), most of the sample farmers 79 % of the sample households are participating in off-farm activities mainly to supplement their agricultural income, since production and productivity of agricultural sector is low, farm households income is not sufficient even to feed their families. Excess labor in the family and the seasonality of agriculture are factors responsible for farmers to participate in off-farm activities. Large family size results in declining farm size which in turn result in low level of per capita production and hence less income. The seasonality of agriculture causes a farm family to have excess labor during the slack season, which induces them to take on in other non-farm activities.

## **CHAPTER THREE: SITE SELECTION AND RESEARCH METHODOLOGY**

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*This chapter covers Description of the Study Area, Data type and sources, Sampling and survey design Data collection procedures as well as Methods of Data processing and Analysis.*

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### **3.1. Description of the Study Area**

Tigray regional state is located on the northern Ethiopia, and the region has seven zonal administrations and forty five woredas. The study has been conducted in Enderta woreda, the south- eastern zone of Tigray region. Among 45 woredas of the Tigray Regional State, the study focused on Enderta Wereda; based on the following fact, Firstly the woreda is the nearest to the capital city Mekelle that fosters non-farm activities to Rural-Urban Linkages. Secondly, the woreda is the potential area of Cobble stone production which is one the non-farm activities. The linkage extends, from that woreda to all cities of the Region. Enderta Woreda shares border with Kiltawale Woreda in North, Hintalo Woreda in South, Afar Region in East and Degua Temben in West. The total area of the Woreda is 140,000 hectare from this area 31,189.3 hectares cover farm land and the rest is utilized for non-farm activities. The Woreda is divided into three Agro-ecological zones, namely Dega(highland), woinagega (medium land), and kola (Lowland). i.e 1% Doga zone, 3% kola zone and 96% weynadega zone. Enderta worda has 17 Tabiyas with the population of 126,159 of this 63,449 are Female and 62,710 are Male .There are 25,751 households from this 3015 are non-land holder. (Wereda Enderta HABP 2004 E.C Annual Report)

As the largest portion of the Woreda is rural area, most of the population members rely on Agricultural activities. The second major income source is non-farm employment. The wereda is engaged in different non-farm activities such as, cable Stone, Sand quarrying, Stone quarrying, Wood work, Metal work, Weaving machine, Baltna, Pottery, Swing machine, petty trade and Food preparation.

## Location Map of the Area

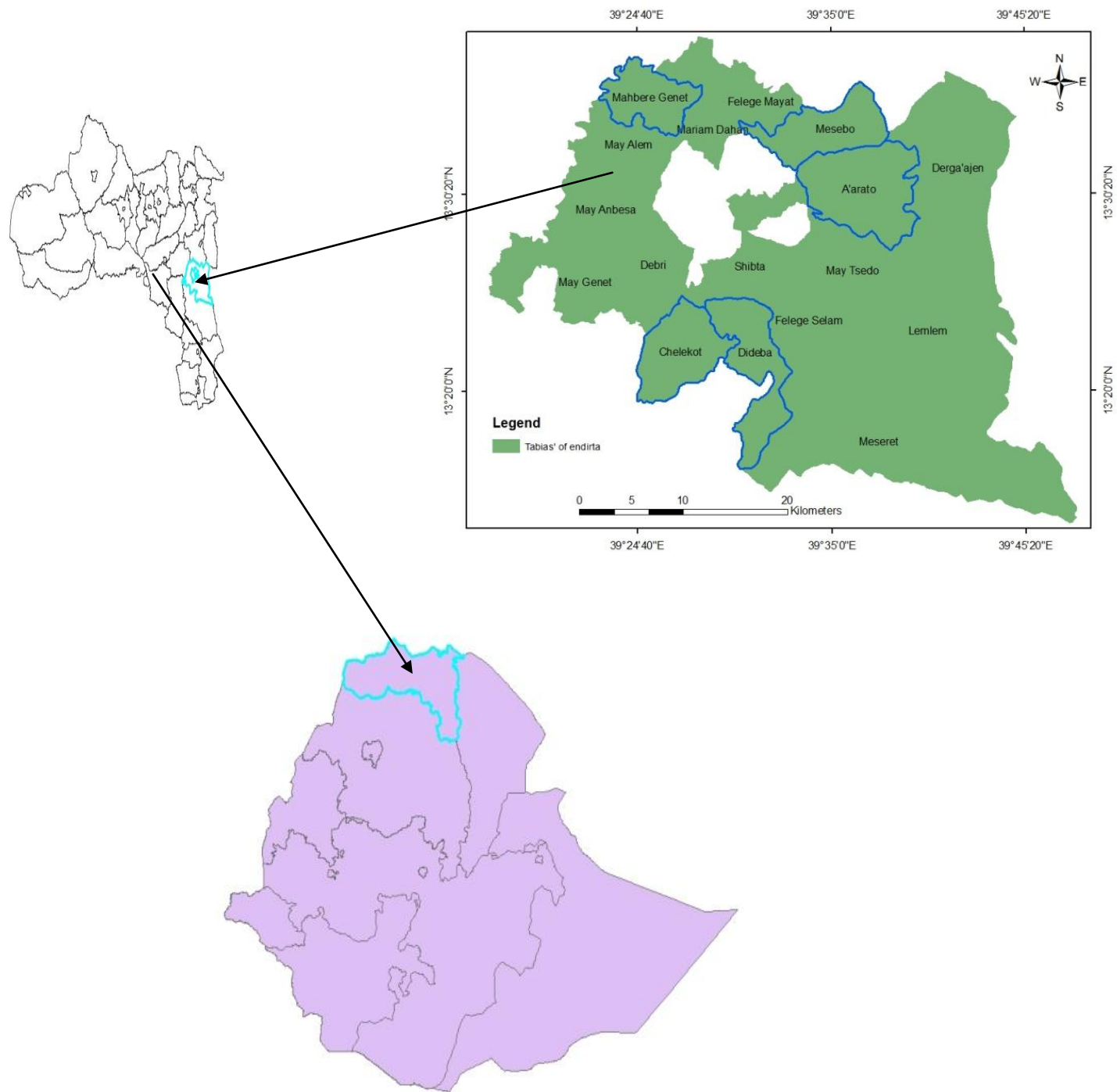


Figure 2. Location Map of the Study Area

**Table 3. 1 Number of households’ participation in Non-farm Activities in Enderta Wereda, 2005 E.C**

	Category	Male	Female	total
<b>1</b>	Cobblestone	207	75	282
<b>2</b>	Sewing	45	23	68
<b>3</b>	Metal work	6	1	7
<b>4</b>	Food processing	49	26	57
<b>5</b>	Pottery	9	96	105
<b>Total</b>		316	519	519

**Source:** Enderta worda House Holds Asset Building Program (HABP) annual report of 2005 E.C

The most significant non-farm activity in the study area is stone quarrying, cobblestone production and rivers sand quarrying, which sources are having high demand for construction purpose. Opportunities for the groups’ engagement in non-farm activities in the study area are given priority for land-less, unemployed or currently not attending any education, may form under a group of 25-30 members. The condition for the membership is eligible by the Tabia’s clout, the applicant resident that the person has no other means of income. Then the worda’s Micro and Small Enterprise (MSE) certify the groups; arrange trainings 10-15 days which is offered by TVET. After attending training for each group a care site of 1000-1500 will be given.

Table 3. 2 Number of households' participation in Non-farm Activities in Enderta Wereda, 2006 E.C

No	Types of non-farm activities	Category	Male	Female	Total
2	Masonry& painting	Construction	32	4	36
3	Coble stone		69	12	81
4	Sand quarrying, stone quarrying		23	9	36
5	Metal work	Manufacturing	12	0	12
7	Weaving		11	13	34
	Carpentry		9	0	9
	Wood work		5	0	5
8	Sewing		11	13	24
9	Pottery	Hand tools	0	37	37
10	Embroidery		12	5	17
11	Petty trade	Services	36	9	45
12	Coffee and tea shop		19	12	31
	Total		256	112	368

**Source:** Enderta worda House Holds Asset Building Program (HABP) annual report of 2006 E.C

### 3.2. Data type and sources

Throughout the course of the work, the study relied on both primary and secondary sources that included both qualitative and quantitative types of data to generate relevant and valuable information. Primary data has been collected by administering structured and unstructured questionnaire, key informants' interview as well as focus group discussion with the respondents. The study also used secondary data, mainly collected from official records of Woreda level, archival research from books, journals, manuals as well as annual reports of the Woreda magazines and others. It also included published and unpublished materials about livelihood strategies and livelihood resources/asset. The unit of analysis is the household heads of the selected Tabias's.

### 3.3. Sampling and survey design

The methodological approach for this study is described as a case study of Enderta Woreda within the quantitative and qualitative descriptive research spheres. Moreover, data has been collected once from a sample selected to describe the larger population at that time, i.e. Cross sectional data. Regarding the population and sampling techniques, the study focused on Enderta Woreda which consists of 17 Tabias. Among these, the research has been taken on five Tabias purposively at Mesebo, Arato, Mahber genet, Didba and D.maernet. This is because first, these Tabias have better flow of capital and goods (especially potential areas for coble stone and other non-farm activities) ,According to the rank of cobble stone production ,I took the highest, the middle and the lowest score of cobble stone production which are compared to other Tabias. The second reason is their convenience for the researcher in reaching the Tabias and their closeness to the Regional capital city i.e. Mekelle. Within these five selected Tabias the researcher applied systematic random sampling method in order to select the respondents who are the households in these Tabias. The process has been random and systematic because every element had a known, non-zero chance that is 1 in  $i^{th}$  to be selected .It has been a simple process, the starting point was selected at random and the other elements were selected systematically.

There are several methods for determining the sample size of respondents from finite population. But, for this study it was used a simple formula from Kothari's formula of (2004:179) as follows.

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2 (N-1) + z^2 \cdot p \cdot q}$$

**Where**

n= size of household heads population

p=Sample proportion of successes;

n=size of sample

q=1-p;



z=the value of the standard deviate at a 95% confidence level

e=acceptable error (the precision)

Thus, N=7342 p=0.5 z= 1.96 e=0.07

Therefore, n=  $\frac{(1.96)^2 \cdot (0.5) \cdot (.5) 7342}{(0.07)^2}$

$$(0.07)^2 \cdot (7342-1) + (1.96)^2 \cdot (0.5) \cdot (0.5)$$

$$n=190$$

This sample size allotted to the five Tabias has been based on proportionate sampling method. Though with this method each Tabia was fairly represented, Proportional allocation of the sample had been made on the basis of the size. The required sample households were selected randomly within each Tabia, because every member of the population had an equal chance of selection in the sample.

This sample size was allotted to five Tibias' using proportionate stratified sampling formula. Through this formula each Tabia was fairly represented as follows:

1. Sample size for Mesebo  $\frac{1172 \cdot 190}{7342} \approx 30$
2. Sample size for Arato  $\frac{2022 \cdot 190}{7342} \approx 52$
3. Sample size for Didba  $\frac{1532 \cdot 190}{7342} \approx 40$
4. Sample size for Chelekot  $\frac{1192 \cdot 190}{7342} \approx 31$
5. Sample size for M.genet  $\frac{1424 \cdot 190}{7342} \approx 37$

As already mentioned above, among the target population of 7342 the researcher took 190 respondents as calculated based on the above formula.

Table 3. 3 Sample distribution and population of the study area

Tabia	Total households of Tabia	Household sample size	Type of sampling
Mesebo	1172	30	Proportionate stratified sampling method
Arato	2022	52	Proportionate stratified sampling method
Didiba	1532	40	Proportionate stratified sampling method
Chelekot	1192	31	Proportionate stratified sampling method
M.genet	1424	37	Proportionate stratified sampling method
Total	7342	190	

### **3.4. Data collection procedures**

The study employed descriptive analysis to examine and describe the role of non-farm activities in sustaining the Rural Livelihood. In this study both quantitative and qualitative methods has been applied. The major reason for relying on both methods was that non-farm activities had a great contribution for Rural Livelihood hence this concept required the use of varied methods so as to come up with the valid and credible results. Accordingly, quantitative and qualitative data were obtained from different primary as well as secondary sources. And enumerators were carefully trained with respect to it, since the questionnaires were administered by them. Five enumerators were involved in the questionnaire administration process and the role of the researcher has been supervising them.

#### **3.4.1. Data collection tools**

Data has been collected from the sample group through questionnaire; key in formats interview, and focus group discussion. Questionnaire was the main source of information to collect data from the rural households of the Tabia and the other main tool, used was face-to-face interview with the administrative bodies of each Tabia.

### **3.4.2. Questionnaire**

The primary data included in depth close and open ended questions and semi structured interviews. Cognizant to the above, questionnaires were prepared to the targeted population of the study area, and additionally, for the ease of respondents the questionnaires were translated to local language Tigrigna. Moreover, the semi structured interviews has been conducted with higher Woreda and Tabia officials as key informants.

Questionnaires were prepared and accomplished by households in the five Tabias and has been evaluated the livelihood resources/assets, the livelihood diversification strategy option, the types and characteristics of non-farm activities existing in the study area and the key constraints and opportunities for non-farm rural diversification in sustaining the livelihood of the rural Woreda. Totally questionnaires were administered to households of the selected Tabias' residents.

### **3.4.3. Interviews**

Interviews have been held with the key informants, like administrative body of each Tabia, the Woreda level office of agriculture and rural development, and the Woreda micro-finance institution and Woreda experts. It included how non-farm activities contributed to the rural people in sustaining rural livelihood. What kinds of strategies were followed?

### **3.4.4. Focus Group Discussion (FGD)**

In addition to structured questionnaires and key informant interviews, focused group discussion has been conducted through five groups that were selected from each Tabia (which comprise eight persons in each group) with elders and key informants like farmers, development agents, relevant professionals and administration office at all levels to access detailed information. FGD was one of the major data collection instrument. In the study, five group discussions were conducted to collect the necessary data. Since the status of non-farm activities were not known by the investigator before in-depth interview has been started in the pilot study, topics for FGD were prepared after a brief field review of the results of the in-depth interview. The purposes of the FGD were to dig out the contribution of non-farm activities for the rural households in order to sustain their livelihood, and to assess the role which could not be gained through in-depth interview. The FGD were conducted by the principal investigator being the moderator. The role

of the moderator has been stimulating participants to air out their ideas, moderating during the discussion and coordinating the discussion process. Two professional experienced and active note-takers were also assigned to record the points raised by participants from the data collectors with previous experience, their duties has been listing topics discussed, monitoring reaction of group participants as well as ensuring that the discussion was well recorded.

#### **3.4.5. Data quality assurance**

The pre-testing study has been conducted in 10% of the sample size in the woreda other than the study area; the piloted respondents were excluded from the study results. One day training about the data collection has been given to Six-diploma level and above professionals. Before the questionnaire was distributed for all respondents, orientations have been given to gather the data based on the schedule. And frequent supervision and immediate validation/monitoring were done during and after data collection to check the fullness of the questionnaire.

### **3.5. Methods of Data processing and Analysis**

After careful collection of data, both from primary and secondary sources, they were edited and checked for consistency, and then the questionnaires were analyzed using the statistical package for social science (SPSS), then having analyzed the data the significant part of the result was based on descriptive statistics methods such as frequency, averages and percentages used to summarize and present the data. Qualitative information collected through interview has been also incorporated in to the quantitative results.

## CHAPTER FOUR: RESULTS AND DISCUSSION

*This chapter deals with introduction, Household characteristics description of statistical result, Livelihood Assets (Capital), Option and opportunities of nonfarm Livelihood diversification Strategies, The contribution of nonfarm activities in sustaining the livelihood in the study area as well as Constraints and opportunities for non-farm rural diversification*

### 4.1. Introduction

This chapter deals with the analysis of the survey data and interpretation of the results of data analysis. The role of non-farm activities in sustaining the rural livelihood of the sample households are analyzed and discussed using the descriptive statistics. Moreover, key informant interview and focus group discussion results are discussed.

The study was based on cross-sectional data collected from a total of 190 rural household heads selected from five Tabias of Enderta Woreda. The sample size allotted to the five Tabias is based on Proportionate sampling method.

### 4.2. Household characteristics description of statistical result

#### 4.2.1. Age, Gender and marital Status of Rural Household

**Table 4. 1 Age of Household Head \* Sex of Household Head \* Marital Status Cross tabulation**

Age	Sex of Household Head		Total	Marital Status of Household Head				Total	% of Total
	Male	Female		Single	Married	Divorced	Widow		
15-29	3	13	16	4	7	4	1	16	8.4%
30-49	113	27	140	9	105	12	14	140	73.7%
50-64	26	4	30	0	25	1	4	30	15.8%
65+	4	0	4	0	4	0	0	4	2.1%
Total	146	44	190	13	141	17	19	190	100%
% of Total	76.8%	23.2%	100%	6.8%	74.2%	8.9%	10%	100%	

Source: Field survey (2014)

Age is an important demographic characteristic of the sample households. At younger age the probability of working off farm will increase, at older ages the overall labor hour will diminish and the demand for leisure will increase (Beyene, 2008). The age structure has also significant implication on the economic activity of the household. Table 4.1 illustrates that about 73.7% of the respondents were in the age group of 30-49, which contain large number of sample household heads. These age groups are adults and productive ages that have positive implications on development.

The majority of the household heads are males, accounts for 76.8% and 23.2% that of female household heads. The mean age for the whole sample is 41.95 year. The maximum age is 68 and the minimum age is 21. Regarding Marital status of the household head 74.2% of the respondents are married, 6.8% are single, 8.9% are divorced and 10% are widows.

#### **4.2.2. Household Size**

The mean family size for the whole sample population is 5.4. The maximum family size is 11 and the minimum family size is 1. This implies that in the study area, 5 people live per household on average.

**Table 4.2 . Primary occupation of rural households**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Farm	159	83.7	84.6	84.6
Valid Nonfarm	29	15.3	15.4	100.0
Total	188	98.9	100.0	
Missing System	2	1.1		
Total	190	100.0		

Source: Field survey (2014)

The primary occupation of the rural household is agriculture, which accounts 84.6 of the total respondents. Hence the household is more than one primary activity. The others 15.4% are engaged in non-farm activities.

The above result indicates that the primary occupation of the household is agriculture but the productivity of the area is less and risky in such a way that most of the production is used for consumption. The farm households follow and develop a wide income earning portfolio to cover all types of shocks. Non-farm activities have an important role in household economy, providing farm households with insurance against the risk of farming and thereby enabling them to adopt new technologies.

**Table 4. 3. Secondary occupation of rural households**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid farm	45	23.7	23.7	23.7
nonfarm	145	76.3	76.3	100.0
Total	190	100.0	100.0	

Source: Field survey (2014)

The secondary occupation of the population , which accounts 76.3% of the total respondents engaged in non-farm activities such as cobblestone, Masonry & Painting, Sand & stone quarrying, Petty trade, preparation of food and local drink”Tela” as well as other activities. The rest 23.7% are engaged in agricultural activities.

**Table 4.4. Secondary Activities of the household head**

Secondary Activities of HH Head		Frequencies	Percent (%)	Total (%)
Agriculture/Farm Activities	Crop production	34	32.38	100
	Poultry	27	25.72	
	Livestock	37	35.24	
	Bee keeping	4	3.81	
	Other	3	3	
Nonfarm Activities	Construction	20	8.1	100
	Masonry & Painting	50	20.24	
	Coble stone	85	34.4	
	Sand & stone quarrying	27	10.93	
	Weaving machine	6	2.43	
	Pottery	6	2.43	
	Petty trade	18	7.29	
	Food preparation	5	2.02	
	Other/preparing Local drink....	30	12.15	

Source: Field survey (2014)

Table 4.4 illustrates that about 44.7% of the respondents are engaged in cobblestone. This is the activity which contains large number of the samples respondents.

Cobble stone production is nowadays believed to be a means to initiate non-farm agricultural activities in the rural area. The cobble stone project is planned and backed by the government to enable the rural youth to engage themselves in non-farm activities it is believed that the rural youth can accumulate initial capital through the cobble stone engagement and thereby proceed to establish petty non-farm occupation .On the basis of this principle ,many rural youth, especially those who are landless, unemployed or currently not attending school ,were made to be organized in developmental groups at a number of 25-30. The livelihoods of all participants have changed because, they used the opportunity offered by their Tabias and saved their money. The



saving helped them as start-up capital for diversifying their activity as a result the individual income has increased and hence, their livelihood have significantly improved since they became members of the developmental group.

**Table 4.5. Educational status of rural household**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Illiterate	72	37.9	37.9	37.9
Grade 1-4	91	47.9	47.9	85.8
Grade 5-8	25	13.2	13.2	98.9
Grade 9-10	2	1.1	1.1	100.0
Total	190	100.0	100.0	

Source: Field survey (2014)

Most studies have indicated that the higher the education level results with a higher stock of human capital. Educational attainment proves one of the most important determinants of non-farm earnings; especially in much paid salary as well as skilled employment. Skills and educational attainment serve as considerable entry barriers to high-paying non-farm employment or self-employment in rural Africa (Haggblade,2007). The survey result shows that, about 61.1% of the sample respondents have attained 1-8 grades. This means, they have better knowledge in engaging themselves in diversified activities, even though they cannot gain in skilled salaried labor market. These conditions facilitate diversification of non-farm activities in the rural households and hence better condition of life.

### 4.3. Livelihood Assets (Capital)

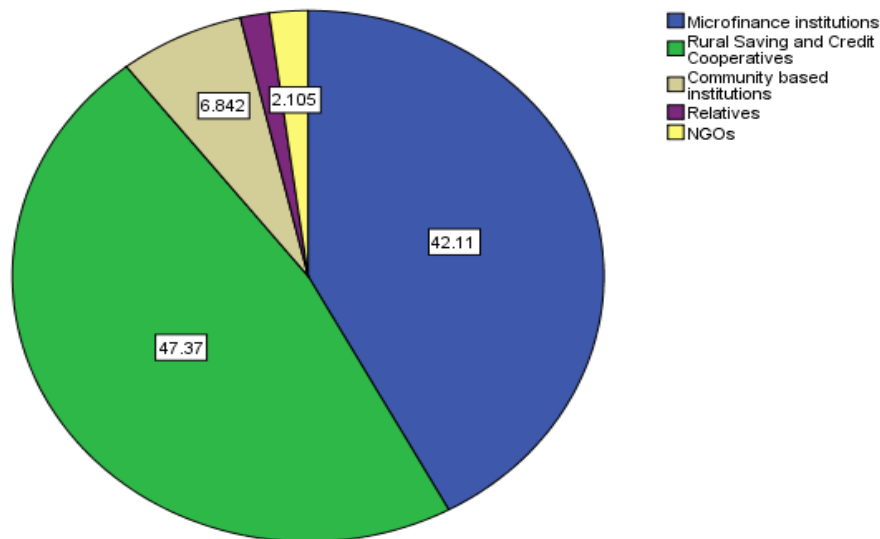
**Table 4. 6 Access to credit service for the rural households**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	167	87.9	93.3	93.3
No	12	6.3	6.7	100.0
Total	179	94.2	100.0	
Missing System	11	5.8		
Total	190	100.0		

Source: Field survey (2014)

The survey result shows that from the sample respondents 87.9% have access to credit service. This result indicates that access to credit services for the rural household is helping farmers to purchase agricultural inputs such as fertilizers. Furthermore; it helps to engage in non-farm diversified activity reducing the influence of natural resource base and increasing the capacity to use different agricultural inputs for enhancing the productivity of land. Hence studies states that raising farm productivity is a driver of rural non-farm economy (RNFE). When agriculture grows, the rural economy will be benefited from income and employment multipliers. The farm and non-farm economy may be linked directly through production activities, or indirectly through incomes or by investment (Reardon *et al.*, 1998). All these linkages are important in the development of non-farm enterprises. As a result, the household income increases immensely

**Figure 4. 1. Sources of credit Institutions**



Source: Field survey (2014)

Most respondents prefer Rural Saving and Credit Cooperatives as the major source of credit which accounts 47.4% .In the study Woreda; each Tabia has Rural Saving and Credit Cooperatives .Credit is already, deservedly a priority area of micro-policy in the rural sector of developing countries (Ellis, 1999). The resent emphasis has been on small scale lending schemes, enabling individual and household to widen their income earning option. There is also a need to facilitate the spread of rural financial institution that are self sustaining on the bases of saving and loan organized according to conventional banking criteria(Ellis,1999). This requires more effort from central Government put in place the appropriate regulatory and guarantee provisions that would encourage the formation of such institutions and ensure confidence in them in the long term. Micro-finance programs are reaching the subjects of the study, and, prospective non-farm diversifiers do not lack all access; but loan is limited, and, therefore, inadequate for high return activities. The repayment period is also short. Loan applicants are also required to form a group or cooperative which is the norm in microfinance, but this may not be convenient for individual entrepreneurs pursuing enterprise-based diversification. From the money borrowed in the year 2005 E.C, their spending includes different purposes like, Purchase agricultural input 43.6%, buy livestock 17.6% , Petty trade 9.1%,Health fee 1.8%,school fee and others (own survey 2014).

**Table 4. 4 Saving of money**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	149	78.4	78.4	78.4
Valid No	41	21.6	21.6	100.0
Total	190	100.0	100.0	

Source: Field survey (2014)

Saving is one of among the assets, which a household's endowment to gain a living .The survey result shows that from the sample respondents, 78.4% of households save money. This result indicates that most of the households have the habit of saving; this may help the rural household to be more liquid as it is serving them as a source of working capital. In the rural areas where credit access is limited, the farmers use the saved money to diversify their activities to non-farm activities, thus it increases their income. Consequently, farmers use the non-farm income to purchase agricultural inputs such as fertilizers, improved seeds and irrigation facilities. In other words, the non-farm income is enhancing the productivity of land and hence the overall income of farm operators.

**Table 4. 5 The amount of money saved by respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
1-499	46	24.2	31.1	31.1
500-999	62	32.6	41.9	73.0
1000-4999	27	14.2	18.2	91.2
Valid 5000-9999	9	4.7	6.1	97.3
10000-19999	4	2.1	2.7	100.0
Total	148	77.9	100.0	
Missing System	42	22.1		
Total	190	100.0		

Source: Field survey (2014)

Large numbers of respondents 32.6% of the household respondents have saved money within 500-999 birr. This result indicates that, the farmer used the saved money to diversify their

activities to non-farm activities or to purchase agricultural inputs in order to enhance the productivity of land and hence the overall income. The study area have experienced non-farm opportunities for those unemployed and landless youths in the rural Tabias . Through forming groups of size 25-30 members, participating non-farm activities like coble stone production and stone quarrying. Their money has been saved through block accounts in Dede-bit Credit and saving institution (DCSI) of Enderta woreda. After graduated from this phase, some of the model groups used the saved money as startup capital to diversify their activity in manufacturing stone sing crusher. Currently, most cooperatives have a capital of more than 1.5 million and fixed assets like; crusher, dump trucks, etc. The livelihood of all participants have changed because, they used the opportunity offered by their Tabia's and have saved money. The saving helped them as startup capital for diversifying their activity as a result the individual income increases.

Most of the members I talked say that, this is a great opportunity of non-farm activity that changed their livelihoods.

**Table 4. 6 Household Annual Gross Income of sample Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 500-999	6	3.2	3.2	3.2
1000-9999	31	16.3	16.3	19.5
10000-19999	61	32.1	32.1	51.6
20000-49999	77	40.5	40.5	92.1
50000-99999	15	7.9	7.9	100.0
Total	190	100.0	100.0	

Source: Field Survey (2014)

The survey result shows that the respondents with annual household gross income categorized within 20000-49999 score the highest among the others. The mean annual household gross income is 23,691.31. The survey result indicates that, the mean annual household gross income for those have diversified activity and farm household only ,are 25,463.74 and 22,760.23 respectively(Own survey 2014).Many studies reveal that people who have engaged in diversified

activities become better income as compared to people who have not in diversified activities the same is true for this analysis.

### Physical capital

Many studies reveal that Investing in rural infrastructure raises RNF activity and farm productivity. Improved both hard and soft infrastructure are means of reducing the transaction costs for business starts and subcontracting in rural areas and have great opportunity to diversify nonfarm opportunity and hence improving the productivity of RNF entrepreneurs .One type physical capital and the most infrastructure for nonfarm activity is road. Rural households need road for marketing agricultural out puts and nonfarm activities and get service. However , the study also finds that ,better road networks benefiting most. In the study area most tabias has access to road service. Chelekot is one of among the study sample Tabias characterized by high potential area for coble stone but the road is difficult for transportation as a result, the rural farmers/developmental groups have limited market demand . And the type of transportation they use to go mekelle is by bus and on foot.

Electricity is an essential of the rural transformation, to provide bases for businesses of nonfarm activities for hinterlands such as metal work, wood work and other businesses, and is an input in to agriculture, for irrigation pumping, commercial agricultural production, and processing. As a result it increases the overall productivity of the farm operators. In the study area most of the Tabias have access to electricity and access to water service that is shared type of water supply. The study area has also access to village market.

Communication infrastructure like telephone is one of the most important means of communication used by the rural people. The mobile phone service is accessible throughout all Tabias. Other infrastructure like Commercial Bank of Ethiopia and Dedebit Credit and Savind Institutions service are available.

### **4.3.1. Human Capital**

#### **4.3.1.1. Education**

In terms of education rural areas are frequently at a drawback, and the importance of better rural education for development of the RNF sector is unquestionable. Many empirical studies reveal

education to be a strong determinant of household participation and of the level of wage earned in RNF activities. However, it appears that more specific skills and training are necessary to promote RNF activities. An example from the non-farm sector is the need to train rural people in skills that allow them to participate in skilled labor markets of the study areas.

#### **4.3.1.2. Health**

Health institution plays an important role in having healthy citizen being capable of producing, which in turn contributes to economic development of the country. The rural people have an access for health services but not adequately addressed.

#### **4.3.2. Social capital**

Participation in social networks also broadens the set of employment and entrepreneurial options for individuals. In the study area all the sample respondents reported that they have strong social ties with each other. From focus group discussion participants claims that, social capital can help increase peoples' income and rate of saving and management of common resources (natural capital). More over social net works facilitate innovation, developing and sharing of knowledge. And also they emphasized that, social capital have a great contribution for sustainable livelihood.

Other participants argue that mutual trust and reciprocity lower the cost of working together. This means that social capital has a direct impact up on other kind of capital .Social network approach has several advantages; it improves the flow of information and knowledge, provides opportunities for households to take the collective decisions, create wide range of opportunity to access of resources in developing and promoting saving and credit services. The role of non-farm activities is seen as increasingly important for the networks of rural areas, and for rural households to diversify income sources and enhance livelihood opportunities.

### **4.4. Option and opportunities of non-farm Livelihood diversification Strategies**

Literature ascertains that decisions made by rural households concerning the form and extent of their involvement in RNF activities (either starting enterprises or entering the wage labour market) generally depend on two main factors:

- ✓ the incentives offered, such as the relative profitability and risk of farm and RNF activities;
- ✓ The household's capacity (determined by education, income and assets and access to credit, etc.) to undertake such activities.

Households are motivated to undertake RNF activity by either "pull" or "push" factors. When choosing to undertake RNF activities, farm households may be motivated by: "pull" factors, such as better returns in the non-farm sector relative to the farm sector; and "push" factors, which include in particular: inadequate farm output, resulting either from temporary events (e.g. a drought) or longer term problems (e.g. land constraints); absence of or incomplete crop insurance and consumption of credit markets ; the risks of farming, which induce households to manage income and consumption , input credit markets, compelling households to pay for farm inputs with their own cash resources.

#### **4.4.1. Households' view about Farming and Diversification**

The study has strived to assess households' attitude to farming and non-farm diversification by asking them questions casing for this purpose. When asked "do you believe you will be food secure and self-sufficient if you do farming alone?" 124 household heads have responded "no", which means 65.3 percent of the total interviewed households don't consider farming alone to be a secure source of livelihood (own survey 2014). However, when the question "do you think you can survive without farming" was asked, the response 75.3 percent was also "no". When also asked,"whether they consider farming as essential for their survival", 93.1 percent have responded "yes". The main means of life survival for the majority of community members is farming. In former times farming was enough for livelihood. Now, however, the land's productivity has declined. It is increasingly difficult to exist by farming alone. Recently, however, more and more people are engaging in coble stone, sand and stone quarrying, petty trade.

Household heads were also asked what they would like to do most in the next five years. Twenty one percent responded that they would prefer to do farming only. Fifty seven percent, however, said that they would like to do both farming and non-farming activities. Fifteen percent



responded that they would prefer to do non-farm business only. Only 7 percent expressed that they have other preferences such as migration (own survey 2014).

**Table 4. 7 kinds of strategies to improve their livelihood**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sending some family members to some other towns	23	12.1	16.5	16.5
	Developing a wide income earning portfolio to cover all types of shocks	116	61.1	83.5	100.0
	Total	139	73.2	100.0	
Missing	System	51	26.8		
Total		190	100.0		

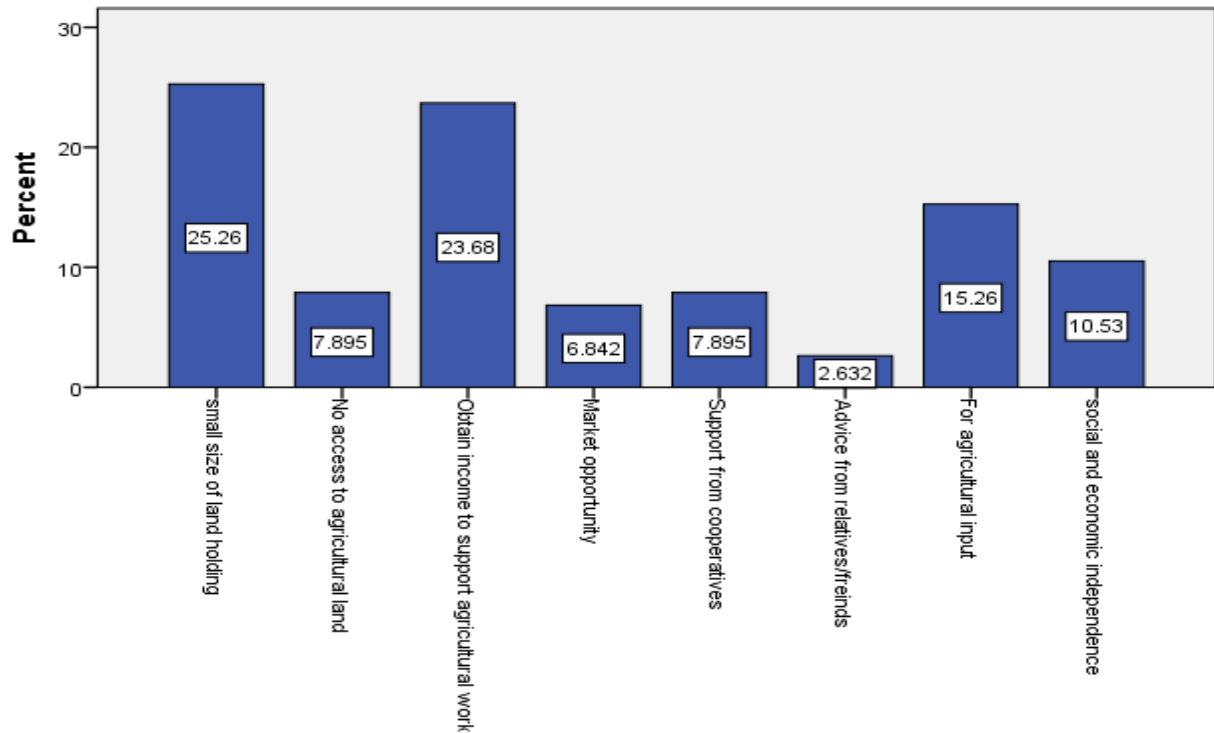
Source: Field survey (2014)

Three broad groups of livelihood strategies are well known. These are Agricultural intensification, Livelihood diversification and Migration. From table 4.10, most of the survey result shows that in the study area; the household heads that use, developing a wide income earning portfolio to cover all types of shocks as a livelihood strategies scores 61.1%. This result indicates that, livelihood diversification option is helping farmers to be more liquid as it is serving them as coping strategy, by developing a wide income earning portfolio to cover all types of shocks.

Many literatures suggest an approach that is a distinction between ‘demand-pull’ and ‘distress-push’ diversification. Distress-push diversification features recent shocks to the agricultural sector that the house hold diversifies income to non-farm activities. Just like the households in the study area participating on both farm and non-farm activity, and farmers in the study area use the non-farm income to support agricultural work. Demand-pull is possible in the presence of expanding technological innovations (whether within or outside agriculture), market development or intensifying links with markets outside the study area; like those landless and unemployed youths and developmental groups participating in coble stone and stone quarrying in the study area.

#### 4.4.2. Motive for Starting Non-farm Activities

Figure 4.2. Households' motive to Diversify in to Non-farm Activity



Source: Field Survey (2014)

Motives for households or individual to diversify incomes and activities may be due to risk or seasonality. From table.4.11 most of, 25.3% have responded that small size of land holding is the main motive that provoked them to diversify. This result indicates that, Risk may attract people to diversify income; it is more the cases that farm opportunities are often limited, therefore the farm households motivated to diversify in to nonfarm activities which is viable income of the household. Main precedence of income diversification is for providing the basic needs of the rural households'. When incomes are securely above a particular threshold, a certain amount of capital (whether financial, education, physical, land, etc.) may be accumulated. This is a consequence of the income diversification. And it becomes the diversification activity motive to become more essential, allowing household members to chase their comparative advantages in selecting particular activities. The same is true for this study that unemployed and landless

youths are in the rural Tabias of study area. Their motive to participate in non-farm income diversification is because they are landless and unemployed. Then the woreda's Micro and Small Enterprise (MSE) organized and certified the groups to participate in coble stone production, stone and sand quarrying. Some of the groups achieve encouraging result, they had accumulated capital and graduated from this phase and transformed to manufacturing (look at 4.6 for detail), and i.e. activity diversification is consequence of the income diversification.

## **4.5. The contribution of non-farm activities in sustaining the livelihood in the study area**

### **4.5.1. Employment status of the Household head**

**Table 4. 11 Employment status of the Household head**

	Frequency	Percent
Self employed nonfarm business	13	6.8
Both farming and Self employed nonfarm business	80	42.1
Wage and salary employment(on nonfarm activity)	15	7.9
Daily laborer	17	8.9
Cooperative engagement in nonfarm activities	36	18.9
Farm only	58	30.5
Not engaged in any productive work	5	2.6

Source: Field survey (2014)

Many of respondents, i.e. 42.1 % have reported that they are engaged in both farming on household farm and self employed on non-farm activity. This result indicates, the number of poor people in rural areas exceeds capacity of agriculture to provide sustainable livelihood opportunities, therefore, the non-farm activity be capable of providing adequate livelihood opportunities for all those unable to make a living in agriculture only. For instance, the rural non-farm employment may absorb rural surplus labor, help farm-based households spread risks, and also offer more pay off activities to supplement or replace agricultural income to provide a means for the rural poor to cope or survive when farming fails. And hence income diversification

is an increasingly important means for chronic food insecure household to manage their production risk; by fostering household asset building through the implementation of on farm and non-farm activity. In other words the non-farm economy improves the overall quality of life, goods and services in rural areas and thus, foster rural growth.

#### 4.5.2. Purpose and Use of Income

**Table 4. 12 Households' Application of Non-farm Income**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid For consumption and essential household expenses	55	28.9	28.9	28.9
Invest it to expand nonfarm business activity	15	7.9	7.9	36.8
to invest on farm	15	7.9	7.9	44.7
Purchase farm inputs	82	43.2	43.2	
Other	5	2.6	2.6	100.0
Missing System	18	9.5	9.5	
Total	190	100.0	100.0	

Source: Field survey (2014)

The study households were also asked for what purpose they use the income they acquired from non-farm activities. Large number of the household head who are participants in non-farm activity about 43.2% indicated their primary purpose is to purchase farm inputs. This result indicated that the non-farm income is helping farmers to be more liquid as it is serving them as a source of working capital. In the rural areas where credit access is limited, farmers use the non-farm income to purchase agricultural inputs such as fertilizers, improved seeds and irrigation facilities. In other words, the non-farm income is enhancing the productivity of land and hence the overall income of farm operators.

## 4.6. Constraints and opportunities for non-farm rural diversification

**Table 4. 13. Structure of opportunities for non-farm activities of the household head**

	Frequency	Percent	Valid Percent	Cumulative Percent
Self employment	44	23.2	26.3	26.3
Wage employment	51	26.8	30.5	56.9
Valid opportunity for Developmental Group/Networks engaged in nonfarm activities	72	37.9	43.1	100.0
Total	167	87.9	100.0	
Missing System	23	12.1		
Total	190	100.0		

Source: Field survey (2014)

When asked do you have an opportunity for participation in to non-farm activities? 82.6% have responded 'yes' and 17.4 % 'no' (own survey 2014). From table 4-16, among the respondents 37.9% reported that they have an opportunity for participating in developmental group/Networks. The household developmental group approach has several advantages; it enables to cover large number of households with limited resources, improves the flow of information and knowledge, provides opportunities for households to take the collective decisions, create wide range of opportunity to access of resources to develop and promote savings and credit services. The role of non-farm activities is seen as increasingly important for the groups/networks of rural areas, and for rural households to diversify income sources and enhance livelihood opportunities. As a result participation in networks also makes wider set of employment and entrepreneurial options for individuals. Certain employment opportunities may not require startup capital but a friendship might be an important determinant of access. The same is true for this study; by using the mineral resource given by micro and small enterprise of the woreda to certified groups by using their labor only i.e. the most significant non-farm activity in the study area is stone quarrying, cobblestone production and rivers sand quarrying, which are sources having high demand for construction purpose.

Opportunities for the groups' engagement in non-farm activities in the study area are available for land-less, unemployed or currently not attending any education, may form under a group of 25-30 members. The condition for the membership is eligible by the Tabia's clout, the applicant resident that the person has no other means of income. Then the woreda's Micro and Small Enterprise (MSE) certify the groups; arrange trainings 10-15 days which is offered by TVET. After attending training for each group a care site of 1000-1500 will be given. The groups would be expected to produce four types of cobble stone size i.e 10-10 cm, 10-9 cm, 10-8cm and 10-7 cm, each size costs the same. The cost of one cobblestone is fixed, 1.60 Birr without transportation cost. After one year duration, the group will be expected to be graduated, and hence the group has initial capital to transform to manufacturing activities as Joint Cooperative Union participating in crusher.

The study area is the potential area for cobble stone in Tigray region. It is expected to produce 27,000,000 cobble stone 17428 curve stone each year but, the actual production is 20,298,766 cobble stone is produced in the current year. There is market opportunities, hence the groups have already linked to markets, in cities Shire, Adwa, Axume and Mekelle city other cooperatives on construction of the road on the specified cities. Their money has been saved through block accounts in Dedit Credit and saving institution (DCSI) of Enderta woreda. The total numbers of groups/net works currently involved are 150. After one year stay the groups graduate, if they are trust worthy with the group they continue and transform in to manufacturing by using the saved money as startup capital and credit is also be facilitated. If there is a disagreement among the group members, the saved money will be shared equally and the group is dismantled. For instance, G/hans Hailu and L/birhan Hadera Joint cooperative union, were established in 2004 E.C firstly as developmental group on stone quarrying, and accumulate capital 190,000 birr. Then they graduate and transform to manufacturing as joint cooperative union in 2005 E.C having 18 members, and have only one female. Currently the union has a capital of 1.6 million birr with fixed assets like crusher, Dump-trucks, Hollow block machines.

Desta Mehari and Asmelash mehari developmental group are certified in 2005 E.C from Arato Tabia among the groups participating on cobble stone having 25 members. They accumulate capital of 200,000 birr through saving, they are graduated currently and are expecting for the permission from the micro and small enterprise of the woreda to transform to manufacturing as

joint cooperative union. Most of the members I talked say that, this is a great opportunity of non-farm activity that changed their livelihoods.

**Table 4. 14. Constraints preventing household head from opening non-farm activities**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Insufficient startup capital	27	14.2	46.6	46.6
Poor infrastructure	8	4.2	13.8	60.3
lack of appropriate skill	13	6.8	22.4	82.8
Limited market demand	10	5.3	17.2	100.0
Total	58	30.5	100.0	
Missing System	132	69.5		
Total	190	100.0		

Source: Field Survey (2014)

The fact that rural non-farm activities are varied by their very nature, the constraints also have varying nature. The constraints to self-employed engagements are the main focus, because the entry barriers in terms of start-up capital, skill level (practical and managerial), access to infrastructure, social relationships, cooperation among household members and other factors are higher than to wage-employment. In this connection, Warren (2002:10) observes “rural enterprise development is a form of diversification requiring higher investment and entailing higher risk.

Household heads of the study sample were asked to tell the primary constraint preventing household members from opening a non-farm enterprise by choosing among pre-coded answers in the questionnaire. Table 4-14 illustrates that 14.2 % responded that insufficient startup capital is the primary constraint.

Inadequate access to capital is the most commonly reported barrier to investment and entrepreneurship; however, the startup capital requirement of micro-enterprises varies: many

types of enterprises do not have specific or substantial assets in terms of building, machinery, land etc, and thus require very limited, if any, start-up capital. For example local drink sales and petty trade at local markets. The Agriculture and Rural Development Office and Micro and small enterprise of the Woreda had in the past conducted vocational training in wood work and metal work for unemployed youth in the Tabias. Even though some members are trained after being organized under group but aren't now fare well in the business due to credit constraint. Such basic efforts need, however, to be expanded and improved. Despite the high percentage of respondents who pulled out insufficient startup capital as primary constraint, the percentages of those who reported absence of credit sources and lack of awareness about credit source.

The above view of constraints to non-farm engagement generally agrees with the perception of the key informants interviewed for this study. However, key informants have emphasized that farming is considered as a sufficient means of livelihood by most inhabitants of the Tabia's and the vision to diversify is minimal because of lack of awareness of the opportunities and weak push factors, especially among the better off.

Key informants have also emphasized skill and knowledge as key inhibitors of diversification. However; it would be incorrect to assume all non-farm activities are liable to skill constraints. Certain activities, by their very nature, require special skills. For example, coble stone, handicrafts, weaving, carpentry, metal works, pottery and blacksmithing. On the other hand, activities such as simple food processing, local drink sales and petty trade are not likely to be constrained by high or specialized skill requirements.

Access to training is one way of mitigating skill deficit but is found to be very limited in the study Tabias. As shown earlier, 37.9 % have not received any formal education. This is a high illiteracy rate which is a serious obstacle to expansion of non-farm businesses. Local infrastructure is important constraint identified by the study area. Key informants of the study have also stressed the limitation of poor infrastructure places on non-farm business development. The most severe handicap to local non-farm business development identified by the respondents is water supply, road, and electricity. Chelekot is one of among the study sample Tabias characterized by high potential area for coble stone but the road is difficult for transportation as the producers have limited market demand. Tabias are covered by a mobile telephone services network.



As per the focus group discussion participants; they have indicated that fear of loss of land is another restraint to non-farm rural diversification. Other constraints commonly cited in the literature, such as lack of market opportunities, shortage of demand, and urban center in proximity, though by no means absent, are not found to be critical in the context of the study Tabias.

Market opportunity, because the study Tabias are very close to Mekelle; this could, however, be a benefit depending on the type of non-farm activities local inhabitants would like to diversify to. On the other hand proximity to such capital city is advantageous in many aspects, including market opportunity and input supply. The organized rural youth groups in cobblestone and stone quarrying have market opportunities already linked to markets, in cities like Shire, Adwa, Axume and Mekelle through the authority of Micro and Small Enterprise of the woreda. But illegal users among the groups have link with the brokers, and hence being obstacle to smoothen the market. When I was conducting the group discussion in Didba Tabia one participant who is one of the group members, have shared us the constraints encountered. The cooperative from Quedamay woyane Sub city, by the name called “More chance of cooperative union” required about 700,000 cobble stone pieces. Due to the type and specification the Micro and Small Enterprises have prepared five groups, hence the groups are expected to present the following procedure (i.e. one group 40,000 and the rest 4 groups to present 165,000 each). Even though the deal is mentioned as above, but the brokers having link with site engineers of that cooperative union, they took from two groups only. As there is no quality but quantity; there is a challenge on the quality of the infrastructure constructed in the cities with cobble stone. Therefore corruption is found to be the constraint to the market opportunity of rural people.

## CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

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*This chapter presents conclusion and recommendations based on the findings of the previous chapters. Accordingly the overall analysis is summarized briefly and possible recommendations are also forwarded by the researcher.*

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### **5.1. Conclusions**

This study examines the role of non-farm activities in sustaining the rural livelihood of the people by using cross-sectional data collected from 190 sample respondents of five tabias of Enderta woreda. The study comprises the livelihood resources/assets including human, natural, social, financial, and physical capital, the livelihood diversification strategy option, the contribution of non-farm activities existing in the study area as well as the key constraints and opportunities for non-farm rural diversification in sustaining the livelihood of the rural of the studied Woreda. Descriptive analysis has also been used to answer all stated research questions.

The primary occupation of the rural household is agriculture, which accounts 84.6 of the total respondents. But the productivity of the area is less and risky in such a way that the farm households follow developing wide income earning portfolio to cover all types of shocks. Non-farm activities have an important role in household economy, providing farm households with insurance against the risk of farming and thereby enabling them to adopt new technologies.

The non-farm occupation of the rural household include activities such as cobblestone production , Masonry & Painting, Sand & stone quarrying, Petty trade, preparation of food and local drink "Tela". Among these 44.7% respondents have engaged in cobblestone supply. This is the one which covers large number of the non-farm activities sample. The study area is rich in coble stone, stones for house building and river sand resources that are having high demand for construction use. It is serving as a great potential area for the Tigray region as a whole.

The survey result shows that 87.9% of the household have access to credit services; Of which 81.2% of the households have access to Rural Saving and Credit Cooperatives .Access to credit services for the rural households are helping farmers to purchase inputs such as hand tools and industrial commodities that help them to engage in non-farm diversified activity. Saving is one among the asset which serves a household's endowment to possess own initial capital for

investment. The survey result shows that from the sample respondents 78.4% households have saved money. The result indicates that most of the households have the habit of saving that may help the rural households as their source of working capital for the non-farm engagement.

In terms of education rural areas are frequently at a drawback, and the importance of better rural education for development of the RNF sector is unquestionable. But in this case 61.1% of the household have attained 1-8 grades. This means that they have better knowledge in engaging themselves in diversified activities even though they cannot attain skilled salaried labor market. This condition facilitates diversification of non-farm activities in the rural households and hence better condition of life.

Participation in social networks also broadens the set of employment and entrepreneurial options for individuals. Moreover, social net works facilitate innovation, development and sharing of knowledge. And they also emphasized that, social capital have a great diversification value and contribution for sustainable livelihood.

Motives for households or individuals to diversify incomes and activities may be due to risk or seasonality. 25.3% respondents' responded that small size of land holding is the main motive which provoked them to diversify. The number of poor people in rural areas exceeds the capacity of agriculture to provide sustainable livelihood opportunities; therefore, the non-farm activity would be capable of providing adequate livelihood opportunities for all those unable to make a living in agriculture only. Risk may attract people to diversify income; as farm opportunities are often limited, thereby the farm households are motivated to diversify in to non-farm activities. As of the case, unemployed and landless youths in rural Tabias in the study area are the ones who are engaged in the cobble stone production.

Many of the households, 42.1 % are engaged in both farming and non-farm activity. Participants in non-farm activity, about 43.2%, indicated that their primary purpose is to purchase farm inputs. This result indicated that the non-farm income is helping farmers to be more liquid as it is serving them as a source of working capital. In the rural areas where credit access is limited, farmers use the non-farm income to purchase agricultural inputs such as fertilizers, improved seeds and irrigation facilities. In other words, the non-farm income is enhancing the productivity of land and the overall income of farm operators.

Cobble stone production is nowadays believed to be a means to initiate non-farm agricultural activities in the rural area. The cobble stone project is planned and backed by the government to enable the rural youth to engage themselves in non-farm activities it is believed that the rural youth can accumulate initial capital through the cobble stone engagement and thereby proceed to establish petty non-farm occupation .On the basis of this principle ,many rural youth, especially those who are landless, unemployed or currently not attending school ,were made to be organized in developmental groups at a number of 25-30. 30.9% the respondents reported that they had an opportunity for participating in the developmental groups. they have saved 30-35% of their income in nearby micro- finance institution where ultimately may save as starting capital for non-farm investment the cobble stone project for a given developmental group lasts only for a year and the group (or at individual level )is expected to initiate any form of non-farm activities in the locality accordingly, many youths are seen exercising diversified non-farm activities such as shopping, stone crushing, fattening, commercial food and local drink preparation and so on.

In the study Tabias, opportunities are expanding faster, however, farmers have still been constrained by various factors while accessing the non-farm activities. A frequently cited reason is insufficient startup capital, lack of skill, poor infrastructure and market opportunities .The fact that rural non-farm activities are varied by their very nature, the constraints are also varying. All key informants have emphasized that skill and knowledge as their key inhibitors of diversification. Local infrastructure is also an important constraint also identified by the study area. Key informants of the study have stressed the poor infrastructure place as a stress on the non-farm business development.

## 5.2 Recommendations

- ✓ Household heads need to get detailed information or awareness about the return and any risk before they are engaged in non-farm activities. Particularly, this holds true for household living with chronically food insecure area where the environment is very risky for day-to-day agricultural activity. Thus, they need relevant and necessary technical assistance that enables them develop their own viable advice on new technology, improved production practices as well as credit management to improve their agricultural production and their livelihood.
- ✓ Educational status of household heads affect participation in non-farm self employment and wage activities. This implies that household heads with formal education were found to have better information and knowledge to participate and earn better income from non-farm and wage employment activities than the illiterate households. The effect of education could be justified that the illiterate households are mostly pushed to less attractive wage employment activities. Therefore, efforts should be made to improve skill and knowledge of farmers through provision of training.
- ✓ Lack of access to sufficient fixed and working capital is a major constraint to boost non-farm activities. Increase credit facilities and the amount of money they saved, as tried to mention in the findings, more than half of the respondents have better access for credit service and saving of money. Since financial capital is important for to stimulate the rural non-farm economy, reduce the influence of people on natural resource base, increase the capacity of the use of different agricultural inputs and it increases the overall productivity of farm operator. It should be work intensely in access to credit service and increase the amount of money saved.
- ✓ The credit and finance bottleneck should be resolved by learning from the lessons of micro-finance, but serious effort should be made to overcome its short comings on the basis of more conventional banking criteria. As non-farm diversification requires group-based activities to mobilize know-how, capital, experience and other benefits that is derived from being organized as cooperatives/networks as well as unions of cooperatives. Hence it should be further strengthened and promoted very well.
- ✓ The cobble stone production and marketing project of the government is expected to be consistent every year, the government has to go on supporting the rural youth engaging

on cobble stone production in both political and technical aspects , the project leaders have to take majors and correct the improper marketing acts due to illegal brokers going between the suppliers and receptors

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# APPENDIX

## Annex 1 Questionnaire



**Mekelle University, Collage of Business and Economics**

**Department of Management, Development Studies**

**Household Survey Questionnaires to be filled by sample household heads.**

This questionnaire is prepared by a Development Studies Post Graduate student in Mekelle University for partial fulfillment of Master of Arts Degree in development studies. The aim of this questionnaire is to collect data about “*The Role of Nonfarm Activities in Sustaining the Rural Livelihood in Enderta Woreda*”. The information you provide is pertinent for successfully accomplishing the research. For this sake, I really confirm you that all the data will be used for academic purpose and will be analyzed anonymously and because of your provision, you will never be exposed to any harm.

**I really thanking and appreciating your kind cooperation in advance; and I need to say thank you!**

Enumerator's name \_\_\_\_\_

Tabia No \_\_\_\_\_

Interview date \_\_\_\_\_

Questionnaire Code \_\_\_\_\_

**General Instruction:**

1. Please put a tick mark (✓) that appropriately represents your response in multiple choice questions.
2. To open-ended questions, please write your response on the space provided. Your genuine response is critically invaluable for the better result of the study.

**Thank you in advance!**

**Meaza Tadesse**

### **Section A. Demographic characteristics**

#### **1. General information on Respondent's**

##### **1.1. Name of Tabia**

- A. Mesebo  B. Arato,  C. Mahber genet,   
 B. Didba  E. Chelekot

##### **1.2. Sex of household head: A. Male B. Female**

##### **1.3. Age of household head: \_\_\_\_\_(years)**

- 1.4. Marital status: A. Single  B. Married   
 C. Divorced  D. Widow

##### **1.5. Size of household \_\_\_\_\_**

##### **1.6. Primary occupation of the house hold:**

- A. Farm  B. Nonfarm

##### **1.7. If your answer for question number 1.6 is farm, which one of the following is the activity of the household?**

- A. Crop production  D. live stock   
 B. Poultry  E. Bee keeping   
 C. Other ,specify \_\_\_\_\_

##### **1.8. If your answer for question number 1.6 is nonfarm, which one of the following is the activity of the household?**

- A. Construction  F. Pottery   
 B. Masonry & Painting  G. Swing   
 C. Coble stone  H. Machine

D. Sand and Stone quarrying

I. Petty trade

E. weaving machine

J. Food preparation

K. Other specify \_\_\_\_\_

1.9. Secondary occupation of the house hold: A. Farm ☐ B. Nonfarm ☐

1.10. If your answer for question 1.9 is farm, which one of the following is the activity of the household?

A. Crop production

C. live stock

B. Poultry

D. Bee keeping

E. Other, specify \_\_\_\_\_

1.11. If your answer for question 1.9 is nonfarm, which one of the following is the activity of the household?

A. Construction

F. Pottery

B. Masonry & Painting

G. Swing

C. Coble stone

H. Machine

D. Sand and Stone quarrying

I. Petty trade

E. weaving machine

J. Food preparation

K. Other specify \_\_\_\_\_

1.12. Educational status

A. Illiterate

B. Grade 1-4

C.

Grade 5-8

D. Grade 9-10

E. above grade 10

## Section B: The livelihood resources/assets of the house hold

2. Do you have an access to credit services? A. yes ☐ B. No ☐

3. If your answer is yes for question 2 what are the sources of credit institutions?

- |                                 |                      |                       |                      |
|---------------------------------|----------------------|-----------------------|----------------------|
| A. Microfinance institutions    | <input type="text"/> | E. NGOs               | <input type="text"/> |
| B. Cooperatives                 | <input type="text"/> | F. Bank               | <input type="text"/> |
| C. Community based institutions | <input type="text"/> | G. Traditional lender | <input type="text"/> |
| D. Relatives                    | <input type="text"/> | H.                    |                      |
| Other _____                     |                      |                       |                      |

4. What was the amount of money you borrowed in the last two years?

2004 E.C \_\_\_\_\_ (Birr)

2005 E.C \_\_\_\_\_ (Birr)

5. For what purpose did you take the credit in 2005 E.C?

- |                                 |                      |                        |                      |
|---------------------------------|----------------------|------------------------|----------------------|
| A. Petty trade                  | <input type="text"/> | E. health fee services | <input type="text"/> |
| B. Cover food gap               | <input type="text"/> | F. Buy livestock       | <input type="text"/> |
| C. Purchase agricultural inputs | <input type="text"/> | G. Other               |                      |
| specify, _____                  |                      |                        |                      |
| D. School fee service           | <input type="text"/> |                        |                      |

6. If your answer for Question 2 is No, what was the reason?

- |   |                      |
|---|----------------------|
| A. I have not any interest to take it     | <input type="text"/> |
| B. Due to high interest rate of repayment | <input type="text"/> |
| C. Couldn't get it                        | <input type="text"/> |
| D. Credit services is not available       | <input type="text"/> |
| E. Other specify _____                    |                      |

7. Do you save money? A. Yes  B. No

8. If the answer for no 7 is yes, how much money have you saved so far?

- |                        |                      |
|------------------------|----------------------|
| A. 1-499               | <input type="text"/> |
| B. 500-999             | <input type="text"/> |
| C. 1000-4999           | <input type="text"/> |
| D. 5000-9999           | <input type="text"/> |
| E. 10000-19999         | <input type="text"/> |
| F. Above 20000         | <input type="text"/> |
| G. Not willing to tell | <input type="text"/> |

9. How much is your annual household gross income now approximately? \_\_\_\_\_

10. What is the importance of accessibility of finance for nonfarm diversification?

\_\_\_\_\_

\_\_\_\_\_

11. Do you have access to road services?

A. Yes ☐ B. No ☐

12. Do you have access for electricity services? A. Yes ☐ B. No ☐

13. What type of electricity service do you have?

A. Privately owned ☐ C. Absent ☐

B. Shared ☐

14. Do you have access to water supply? A. Yes ☐ B. No ☐

15. What type of water supply do you have?

A. Privately ☐ C. Absent ☐

B. Shared ☐

16. Do you have access to school for your children? A. Yes ☐ B. No ☐

17. Do you send your children to school?

A. Yes ☐ B. No ☐ C. No children ☐

18. If the answer for question 17 is No, what was the reason?

A. No school near my surrounding area ☐

B. I could not afford school fees for them ☐

C. They are on work in support of the family ☐

D. Other, specify \_\_\_\_\_

19. Do you have access for health services? A. Yes ☐ B. No ☐

20. Do you have an access for telephone service? A. Yes ☐ B. No ☐

21. Do you have an access for market in your village? A. Yes ☐ B. No ☐

22. Do you think your social ties are strong?

A. Yes ☐ B. No ☐

23. In which of social capital and social institution do you participate or not? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

24. What is the role of social capital for nonfarm diversification?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

25. What is the role of social capital for sustainable rural livelihood?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### Section C: Option and opportunities of nonfarm livelihood diversification strategy

26. Do you believe you will be food secure and self sufficient if you do farming alone?

A. Yes ☐ B. No ☐

27. Do you think you can survive without farming?

A. Yes ☐ B. No ☐ ☐

28. If yes, what kind of livelihood strategies do you use to improve your livelihood?

A. Agriculture intensification by producing high value products ☐

B. Sending some family members to some other towns ☐

C. Developing a wide income earning portfolio to cover all types of shocks ☐

D. Other, specify \_\_\_\_\_

29. If nonfarm activities are one of your livelihood diversification strategies, what are the specific sources? Multiple answer is possible

A. Construction Work ☐

F. Pottery ☐

B. Masonry & Painting ☐

G. Swing ☐

C. Coble stone ☐

H. Machine ☐

D. Sand and Stone quarrying ☐

I. Petty trade ☐

E. weaving machine

J. Food preparation

K. Other specify \_\_\_\_\_

30. What was your most important motive for starting nonfarm activity

A. Small size of land holding

B. No access to agricultural land

C. Obtain income to support agricultural work

D. Market opportunity

E. Support from cooperatives

F. Advice from relatives/friends

G. For agricultural input

H. Other, specify \_\_\_\_\_

31. What was your startup capital to establish nonfarm activities

A. Crop sale

B. Livestock sale

C. Tapped resources from Microfinance institutions for nonfarm investment purpose

D. Cooperatives

E. Other, specify \_\_\_\_\_

32. What was your reason for applying for microfinance institutions

A. Agricultural input

B. Nonfarm business equipment machinery

C. Education

D. Health

E. Other, **specify** \_\_\_\_\_

Section D: the contribution of nonfarm activities existing in the study area

33. The employment status of members of the household is \_\_\_\_\_

A. Self employed nonfarm business

B. Both farming and Self employed nonfarm business

C. Wage and salary employment

D. Daily laborer

E. Cooperative engagement in nonfarm activities



34. For what purpose do You use the income you acquired from nonfarm activity

A. For consumption and essential household expenses

B. Invest it to expand nonfarm business activity

C. To invest on farm

D. Purchase farm inputs

E. Other purposes, specify \_\_\_\_\_

35. Do you think nonfarm activities are an essential component for your survival?

A. Yes

B. No

36. What activities do you perform out of farming

time \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

37. What amount of average earnings do you generate from these activities?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

38. What contributes the nonfarm activities for sustainable livelihood of the rural

people \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### Section E: constraints and opportunities for non-farm rural diversification

39. Do you have an opportunity for participation in to nonfarm activities?

A. Yes

B. No

40. If yes, in which of these nonfarm activities

A. self-employment

B. Wage employment

C. Opportunity for cooperatives engaged in nonfarm activities

D. Other Specify, \_\_\_\_\_

41. If No, what are the constraints preventing household members from opening nonfarm activities

A. Insufficient startup capital

B. Poor infrastructure

C. Lack of appropriate skills

D. Limited market demand

E. Other, specify \_\_\_\_\_

42. What are the opportunities for diversifying the nonfarm activities in your

Tabia? \_\_\_\_\_

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What are the constraints for nonfarm activities, which is one of your livelihood options, in sustaining your livelihood? \_\_\_\_\_

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